WESTERN FARMER & GARDENER.

"THE PROFIT OF THE EARTH IS FOR ALL; THE KING HIMSELF IS SERVED BY THE FIELD."—*Eccles* 5-9.

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WESTERN FARMER & GARDENER.

HENRY WARD BEECHER—Editor.

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NOTICE.

The editor of the Farmer and Gardener is not connected with the business of the office in any manner as publisher; nor can he as a general rule, attend to matters belonging to the business department. All business letters should be sent to J. D. Defrees. If correspondents wish, along with their communications, to send errands of business, they must either put them on separate strips of paper, or so place them that they can be torn off the sheet without injury to the communication. If this is not done, the publisher will hardly see the errand; and, nine times in ten, the editor will be unable to attend to it. Attention to this will save trouble to our subscribers.

Our subscribers, receiving their papers at Connersville, will please pay S. W. PARKER, Esq.

☞ Several subscribers have sent us one dollar for single subscriptions. As the price is fifty cents, we send them two copies, one of which they will probably circulate in their neighborhood as a means of inducing others to subscribe.

☞ We send our first number to all our old subscribers; if they wish the Farmer and Gardener, they will please forward the price before the second number is issued, as we shall send it to none who have not either paid in advance, or made an arrangement equivalent to it.

DO WRITE; AND WRITE ABOUT COMMON THINGS.

There is an entirely wrong idea prevalent among farmers about writing for agricultural papers. They think that they ought not to write unless they have something new, or surprising; some discovery, some phenomenon; and that then they must write a *great* article. But every-day matters—how they plow their fields; how they keep them in good heart; how they manage each kind of crop; how they economise, how they blunder, how they lose; these things are so *common* that they are afraid to touch them. You are mistaken, gentlemen; these are the very subjects we want from your pens. These are the subjects that the bulk of our readers are the most interested in, and these are the subjects on which you are best informed. Do not be too ambitious, and wish to do something on paper that no body else ever did; for the probabilities are, that nobody will ever want to have you do it again. Why, cheese is to be made yet to the world's end, and butter, and pork and beef; men have yet to plant corn and sow wheat, and on all sorts of soils, and under all sorts of difficulties. Flies will never be done teazing; moths will not be pursuaded away, grubs and worms of every name will crawl and have a living out of men's crops; cows will calve, and until the sun goes down for the last time, the calf will resemble the parents; orchards are yet to be planted, fruit to be plucked, to be saved, green or dry, for winter's use. To the end of time, there will be men born who will have to learn how to manage clay soils, and sand soils, and rocky soils; there will be large farms and little farms, and fences around them, and houses on them, and families in *them*, and housewives will have to cook what men like to eat; there will be clothes to make, and to wear out. Why, what on earth do you suppose men want you to write upon but these very subjects—these plain, practical, every-day matters about household, barnhold and farmhold affairs? But you reply, every body knows these things. I beg your pardon, everybody don't know about them. For mercy's sake, just come with me to the next plantation to your own! Did you ever go there without seeing and thinking of two things. 1st. I could *tell* that man something about his management, if he would not get angry. 2d. And the other thing is, "well, *there* is something I'll remember and improve on."

There is not a farmer on earth, no matter if his farm is in Hard-scrabble itself, but may teach you something. If he is a good farmer you will imitate something; if a bad one, you will avoid some practice, which never before seemed so exceptionable. You cannot go to any neighbors without finding a variety of practice, arising from good reasons or bad. *You talk about these things.* These very things which you say are too common to put on paper are the very things which you discuss among yourselves whenever any gathering in your neighborhood brings you together Don't be ashamed of common things. If some men hunted as they wish to write, they would not take a common fowling-piece to kill a squirrel, but would harness up a span of horses and drag a twelve-pounder about through the woods, load her up, touch her off, and be tickled enough, if it made a thundering noise, no matter whether it hit a tree, the ground, or a squirrel. Gentlemen, our little paper could not stand many twelve pounders. Pray give us plenty of musket shots, and rifle shots, and such like, and leave all your thunders for election days and stump speeches.

Why my sturdy old friend, who grumbles because farming papers are not practical enough, are you going to turn Egyptian? Do you mean that we shall make brick without straw? What is the stuff out of which practical papers are made? Why, *your experience*, and your neighbor's, and his neighbor's, and everybody's neighbor's experience. An editor is a mere house-carpenter; he saws, and planes, and fits together the materials for a house, but you must put the *materials* into his hand; he lives in a sort of saw-mill; you bring the logs and he saws them up. Friends and neighbors, if you will haul your logs, our saw is all ready for work.

REVIEW.

TREES AND SHRUBS OF MASSACHUSETTS. — This wise State never took a wiser step than that, under the administration of Gov. Everett, of a general survey of her resources. Her Geology has been reported by Professor (now President) Hitchcock of Amherst College; her Insects injurious to vegetation, have been admirably described by Professor T. W. Harris, of Harvard University; her agricultural condition has been inspected and reported by the Rev. Henry Colman; several other reports upon her Natural History, have, we believe, been made. The latest report is from the pen of Geo. Emerson, a teacher, we believe, in the city of Boston. It is a pleasing monument of diligence, enthusiasm, and knowledge combined with good taste. The only leisure for the accomplishment of the work, was a part of the two vacation months of summer. This would have prevented the attempt with one less zealous than Mr. Emerson; and one less thorough would have hastened the work in a meagre and immature state upon the public. Mr. E. has steadily worked up his less than two months a year, *for ten successive years*, travelling all over the State, making out descriptions under the very trees of which he writes, and at length presents a report creditable to the subject, to the Commonwealth and to its accomplished author.

The Reports of Surveys, in Ohio, and Indiana, begun some ten or more years ago, are melancholy instances of "begining to build without being able to finish;" and remind one of the fragmentary condition of the public works of Indiana and Illinois — here and there a bridge, a lock, an embankment, all useless because unconnected, and incomplete.

This Report is worthy of general circulation, and will attract the casual reader as well as the scientific botanist. Mr. Emerson has the eye of a poet, as every man ought to have who is conversant with trees and shrubs. "An undevout astronomer is mad," according to the sombre Dr. Young; and we think but little better of the undevout and unpoetical botanist.

Mr. Emerson says in his preface:

A point with which I have each year been more and more struck, is the beauty of our native trees and of the climbing vines and undergrowth associated with them. I have thrown aside much which I had written upon this point. Utilitarian readers will perhaps find too much still retained. My apology for not pruning more severely must be found in my sincere conviction, that associations with the beauty of trees about our country homes enter deeply into the best elements of our character; and a hope that what I have written may induce some of my readers to plant trees, for the purpose of increasing the beauty and the appearance of seclusion and quiet of the homes of their wives and children.

We recollect that Dr. Watts in apologizing for his lyrics, says that he was *obliged* to make them prosaic often, and to prune away much good poetry, since the public sentiment of singing churches, could ill bear the heresy of good sacred poetry. Mr. E. feels called upon, we think, with less reason, to conform to a bad taste, and "throw aside much which he had written."

We should not have been astonished at this public taste in Indiana, where the pioneer sees in a tree nothing but an incumbrance to his farm, and when of course that has come to pass which Asaph wrote: "A man was famous according as he had lifted up axes upon the thick trees." (Ps. 74: 5.) It does surprise us in a State possessing the Massachusetts Horticultural Society. But Mr. E. says that the "cunning foresight of the Yankee seems to desert him when he takes the axe in hand." We must not omit a noble testimony to the laboring classes of Massachusetts, which we believe would find a parallel in every western State.

I shall always esteem it one of the best fruits of my labors in this survey, that they have brought me better acquainted than I otherwise could have been, with the intelligence, hospitality, and good and kind manners of the common people in every part of the State. If there are better manners and a higher intelligence among the people in other countries, I should like to travel amongst them; but I very much doubt whether, in any country on which the sun shines, there are, amongst the people in common life, more of those qualities which are always pleasant to meet with, delightful to remember, and most honorable to our common humanity to record, than are found among the independent mechanics and yeomanry of Massachusetts.

Introductory to the description of trees, Mr. E. discourses wisely upon the uses of Forests, and our people will do well to heed. 1. They improve the soil, by the action of their roots, and by the annual deposit of their leaves and bark, and ultimately of the whole fabric.

2. They conduct electricity to the earth, and thus give "activity to the vital powers of plants."

The dry sterility of some parts of Spain, anciently very fertile, is probably owing, in a great degree, to the improvident destruction of the forests, and the absurd laws which discourage their renewal. The forests also coat the earth and keep it warm in winter, shutting in the central heat which would otherwise more rapidly radiate into space and be lost. If you go into the woods at the end of a severe winter, you may anywhere easily drive down a stake without impediment from the frost; while, in the open field by their edge, you find a foot or more of earth frozen solid. Forests act not less favorably as a protection against the excessive heat of the summer's sun, which rapidly evaporates the moisture and parches up the surface. The first mahogany cutters in Honduras found the cold under the immense forests so great, that they were obliged, though within 16° of the equator, to kindle fires to keep themselves warm.* The rain, falling on the woods of a hill side, is retained by the deep and spongy mass formed by the roots and accumulated deposit of leaves, instead of rushing down, as it otherwise would, in torrents, carrying with it great quantities of loose soil.

3. They protect a country from winds.

The lively author of "Life in Mexico," writes, (vol. II., p. 52:) "M. de Humboldt, who examined the will of Cortes, informs us that the conquerer had left sugar plantations near Cuyyacan, in the valley of Mexico, where now, owing, it is supposed, to the cutting down of the trees, the cold is too great for sugar cane or any other tropical production to thrive." And a most intelligent gentleman in Worcester tells me, that he attributes the greater difficulty now experienced in the cultivation of the more delicate fruits in that town, to the fact, that the encircling hills, formerly crowned with trees, are now, to a considerable degree, laid bare The laws of the motion of the atmosphere are similar to those of water. A bare hill gives no protection.. The wind pours over it as water pours over a dam. But if the hill be capped with trees, the windy cascade will be broken as if into spray. Its violence will be sensibly diminished. We are not aware, on the now protected and irregular surface of New England, how important are the screens furnished by the forests. Travellers from Illinois tell us, that on the vast prairies in that and some of the other Western States, the wind is almost always fresh, and often blows a gale, before which men can hardly stand.

* "At Guinea, in South America, within 5° of the line, the inhabitants living amid immense forests, a century ago, were obliged to alleviate the severity of the cold by evening fires. Even the duration of the rainy season has been shortened by the clearing of the country, and the warmth is so increased, that a fire now would be deemed an annoyance."
Ure's Dictionary of Chemistry,—article, Climate.

4. They are an element of beauty.

No element of beauty is so completely manageable as trees; and our resources in that respect are surprisingly great. Situated in the middle of the temperate zone, we have, in Massachusetts, all the best of the deciduous trees; the oaks, elms, beeches, ashes, hickories, walnuts, cherries, maples, the chestnut, linden and button-wood, of the temperate regions, together with the finest of the evergreens, the pines, firs, spruces, cedars and hemlock, and the delicate birches, of a more northern climate. Each one of these trees has its own peculiar and distinctly marked character, recognizable at a distance, and producing an effect which needs not to be mistaken for that of any other. Each has its own cycle of change, its own time of flowering, and of perfecting its fruit, and of opening, maturing, changing and casting its foliage. Each has its own shape and its own color, distinguishing it from every other tree, even of the species most nearly allied. Hence the endless variety of forest scenery. Here are more than fifty elements shading off and blending into each other in imperceptible gradations, according as you recede from the coast to the interior, as you go north or south, or as you rise from the plain into the mountains. We have here representatives of the vegetations of the warmer and of the colder regions; but as you go north, first the hickories, then most of the other nut-bearing trees, then others gradually leave you, and give place to hardier foresters. As you go south, the same gradual change takes place from the desertion of the pines and birches, and the addition of new oaks and other trees. Every one feels the difference in the effect produced on the mind by the forests of Berkshire, and the woods of Norfolk and Essex county. The practiced eye detects the cause of the difference in the different trees which constitute the forest, and still more in the different proportions in which the same trees are combined.

Trees to be planted about a residence should be selected in reference to this circumstance as well as to the time and variety of their flowering. Early autumn becomes gay with the vivid crimson of the tupelo and the sumach. A little later come out the rich orange and yellow of the sugar maple, with the gold and scarlet of the red-flowering maple. The soft olive tints of the ash, the warm browns of the hickory, the purples of the cornus florida, the buffs and yellows of the birches, give place at last to the full scarlets, yellows and browns of the oaks, many of whose leaves remain adhering through the snows of winter. These and forty other trees, and twice as many shrubs, furnish as inexhaustible a store-house of colors as they do of shape and foliage. It would be endless to speak of the adjuncts of trees, the climbing shrubs, the Virginia creeper, so remarkable for the richness of its fading colors, the Roxbury wax-work, for its berries, the ivy, the vine and the climbers which naturally attach themselves to our trees, and which may be trained upon them in cultivation; the lichens which cloud and paint their trunks with touches of green and yellow, white and, the mosses of brilliant green or purple velvet which grow about their base. All these are studies for the landscape gardener, and their daily observation will add immeasurably to the pleasure of the contemplative man who dwells in or traverses the country in autumn with the eye of a painter, and the feelings of a poet, or with those of a worshipper of the Author of these beauties.

It is surprising how small is the number of trees necessary to produce a striking effect. Ten or twelve trees, fortunately or skilfully disposed on the sides or brow of a hill, are often sufficient to give it an air of richness harmonizing perfectly with a highly cultivated country. The happy effect of three or four trees on an island in Boston harbor has been already mentioned; a single one on Pettick's Island gives an agreeable relief to the eye. A single tree by a farmer's house protects it, and gives it a desirable air of seclusion and rest; as if it must be the residence of peace and contentment. One almost covets a house so pleasantly sheltered. While an unprotected, solitary house seems to shiver in the north wind, and we involuntarily wish for the inhabitants a more cheerful home. Why should not at least one tree be found growing near the dwelling of every man, even the poorest and humblest?

5. The advantages of *shade* are not to be lightly esteemed. In a country so much exposed as ours is, in consequence of the remarkable clearness of the atmosphere, to the burning heat of the sun, the use of trees for shade is not one of the least important. This use is closely allied to the last. A tree which furnishes a cool shade to the inhabitants of a house, is at the same time and on that account its best ornament. At the season when men travel for pleasure, a plain, low, modest house with an open grass plot before it, shaded by an oak or an elm, speaks more to the feelings and is more beautiful than the showiest house unprotected from the sun. The traveller in a hot day welcomes every tree on the road side. Even a thin fringe of gray birches looks pleasant; and he remembers thankfully the kindness or good taste which has spared, or planted a tree with a head broad and thick enough for him to rest under and cool himself.

Trees should be planted not only by dwelling-houses and along roads; they should be in every pastdre and by watering places, and near every barn,—wherever cattle, horses or sheep are to be provided for. All these animals suffer from our burning sun; and, to say nothing of their enjoyment, the cost of shade trees will be many times paid back in the saving of the milk, fat, fleece and strength, which will be the consequence of their being protected from the heat of the sun.

6. Mr. Emerson in speaking of the economical uses of forests, for fuel, timber, manufactures, makes some statements which contrast curiously with the state of things in the west.

The effects of the wasteful destruction of the forest trees are already visible. A very large proportion of the materials for ship-building, house-building and manufactures, in the towns along the coast, are now brought from other States. The manufacture of wooden bowls and other vessels made of a single piece, has in some towns in Berkshire diminished, and in others been given up, from the failure of ashes, beeches, lindens, and other suitable trees large enough for the purpose; and in the western towns of Worcerter county, materials less valuable than heretofore are necessarily in some cases used in the important manufacture of chairs. The same thing is taking place, almost imperceptibly, in all parts of the State. Every mechanic, who works in wood, looks every year more and more out of the State for his materials. Every year we are more dependent on Maine and New York, and some of the southern States, not only for ship-timber and lumber for house-building, but for materials for tanning and dying, for carriage-making, basket-making, plane-making, last-making, and for furniture and the implements of husbandry.

Even these foreign resources are fast failing us. Within the last quarter of a century, the forests of Maine and New York, from which we draw our largest supplies, have disappeared more rapidly than those of Massachusetts ever did. In a quarter of a century more, at this rate, the supply in many places will be entirely cut off. In many parts of both those States, which recently furnished the most abundant supplies, agriculture is already taking the place of the lumber trade; and the disforested region, now changing into beautiful farms, will never be allowed to resume its original wildness; or, if the attempt should be made, to restore the forests, the experiment would require a hundred years.

Is it not strange that the wooden ware of the western States, superabounding with wood, should be principally furnished by New England States, where timber is so scarce as to have become an article of importation? First, maple, ash, and pine are imported to Massachusetts; then manufactured into bowls, ladles, broom and mop handles, pails, rollers, clothes-pins, tubs, &c. &c. sent a thousand miles overland to Indiana or Illinois, and sold to people who are burning up aker upon aker of timber, just to get rid of it! This matter has a parallel in the rather dissimilar subject of cheese. We know of several purely agricultural counties in Indiana, which import from Ohio, nearly every pound of cheese sold in the stores! Farmers, with herds and pastures in abundance, allowing Western Reserve enterprise to supply the market and take off the money!

By our own hand, or by help of an abler hand, we intend to draw again from this report, materials of useful information.

NAMES OF FRUITS.

A man may think the *name* of a fruit to be of very little consequence; and all anxiety for a reformation in pomological nomenclature to be trivial. To-be-sure, when a man is eating the Duchesse D'Angoulême, he is naturally more absorbed in a virtuous meditation upon her tender and amiable excellences, than upon the name. But when a man would inform a friend of the names of his varieties; or when one would write for or decypher the names of fruits in the corpulent catalogues of the day, it is of a good deal of consequence how a fruit is named. How many men in America can come within gunshot of a right pronunciation of the familiar *Williams' Bon Chrétien?* But this is simplicity itself by the side of other pears; as, for instance, *Louise Bonne de Jersey; Van Mons leon le Clerc; Reine de Pays bas.* A name is a thing meant for *use*, and for the use of the *mouth*; not an ornament for the *eye*. But nearly one half of all the pears, now gloriously trumpeted, are so named that a plain man would have an extemporaneous lock-jaw in the attempt at enunciation; or if he did pronounce, it would be after such a style as would throw a Frenchman into convulsions. Just think of the following choice little set of pet names, and imagine the consternation of a plain, swart farmer who should receive the invoice, and fancy himself doomed to pronounce them! *Beurré Tardif de Fougere; Belle et Bonne de Hee; Beurré d'Amalis Panaché; Jalousie de Fontenay Vendee; Œuf de Cygne;* (augh!) *Beurré Gris d'Hiver nouveau;* and, (the very Cossac of all,) *Citronenbirne Bömiche Grosse Ponctirte!!* These names were evidently compounded in Europe, for the pronunciation of gentlemen who have nothing else to do. Only think of the length of labels required for such concatenations; we shall have yardsticks dangling from our trees! Ah, Mr. Downing, thou high-priest of horticulture, thou hast already seen the evil, and made fun of it by a piece of sheer waggery. A kind and plausible key to the pronunciation of French names, is appended to Downing's Fruit Manual, just to entrap the unwary. A sensible man would, on coming to one of these quick-set names, prudently have turned back or given the name a bold leap and jumped over it. But Mr. Downing's key will tempt hundreds to make fools of themselves to the unbounded delight of all who are initiated. Just see what you have done, Mr. Downing! *Sahngwe-nole ah Shair Ad-hay-ront.* That's the way to pronounce *Sanguinole à chair adhérent! Du-shess Dong-goolame*, seems to hint at the very truth in its last syllable Vallée Franche, is to be pronounced *Vol-lay Fronsh!*

Surpasse Virgalieu is Seur-pass Vere-gal-yu. Fondante du Bois, is Fone-dont du Bwoi [i. e. 'b'hoy'?) Cuisse Madame, is Kuees Mah-dam; and we can imagine the accent put upon the last syllable by some irascible "bourgoise gentilhomme." A hoax is a harmless device to induce unsuspecting men to make themselves ridiculous, and we do not know of a more admirable one than this "Key to French Names," which being translated means, "a fun-trap for credulous gentlemen."

Our missionaries in foreign parts are wont, on receiving natives to the church, to baptise them out of a heathen into a good and reasonable christian name. We wish that some such sensible ablution might befall our catalogues.

However well these absurd names may serve for humor, there are very serious practical evils in attempting to retain them. It will be utterly impossible to bring foreign names into general use. The choice grapes, pears, plums, and other fruits cannot belong, in this country, to amateurs. The tendency of exhibitions and societies is to diffuse them. Already thousands of small gardens and farms are stocked with varieties that would be counted rare on a Baron's estate in France. But while the fruits go abroad, the names will never be generally introduced with them. Let one sit down and read the names in the Index of Downing's Fruit Manual, and reflect upon the likelihood of the half of them becoming current and familiar. Amateurs will retain the true and classic name, and the multitude of cultivators will employ a corruption of it, or a local synonim. Indeed, these interminable foreign names are preparing an abundant harvest for all future "committees on synonims."

Mr. Fidunk for example, brings out, among others, the Duchesse d'Angoulême. In two years the pear passes in all that region as the Dutch Dangle-um, or the Dutch Pear, or the Donglum pear; and besides this threefold form, it will be sure to take the name of the importer, and be found on many farms as the *Fidunk*. By and bye it will journey back to New York as the famous Western pear—the Fidunk Seedling!

EXHAUSTION OF VARIETIES---INFLUENCE OF THE STOCK ON SCION, &c.

After extracting from the Farmer and Gardener a late article on this subject, Mr. Buckminster, of the Masssachusetts Plowman, remarks as follows:

These are the scientific views of Mr. Beecher of Indiana. Whether they are correct or not we cannot at present decide. Mr. Knight's theory has made much talk in the world. It cannot be proved correct at present for the want of close observation for a term of two hundred years or more. More facts are wanted in the case. No reasoning whatever will satisfy the curious inquirer *that the same fruit may be continued down indefinitely by grafting.* (1.)

Mr. Knight gives it as his opinion that many of the best old English fruits have run out, and he asserts they cease to appear in the English market. Now which is the more probable theory? Is it probable that the same variety may be continued for a thousand years, when the tree that produced it cannot be made to thrive for half that time? If it may be continued for 1000 years, or twice as long as the natural tree can be made to bear fruit, we see no reason why it may not be continued for 10,000 years. Here would be perpetuity differing from all analogy. (2.)

On the other hand, we cannot be sure, at present, that Mr. Knight is correct. What reason have we to say that a variety of fruit cannot be continued longer by grafting into young stocks, than by leaving the tree to take its natural course?

There is one view of this subject which has not, to our knowledge, been taken by Mr. Knight or by his opponents. Both parties seem to suppose that by inserting a scion or a bud into a stock differing materially from itself, you secure the spread of the very same qualities which the scion possessed in its native stock. *But this is not the case.* Cultivated fruits lose something of their excellence by being united to crab stocks. How can it be otherwise? Sour sap circulating in sweet veins, affects those veins and affects the fruit. (3.)

It is true the scion, having the sole power to put out leaves, has vastly more influence over the fruit than the stock has, which only supplies the watery matter that is taken up from the earth through the roots. But it is quite unphilosophical to suppose that the sap has no influence whatever over the fruit which cannot be sustained without it. It would be a great wonder if we could unite two varieties thus, and merge one of them into nothing.

But we are not left to theory alone to settle this matter. It is a fact that you are not sure of precisely the same fruit, after grafting, which your scion bore on its native limb.—The variation from the original is more obvious in some cases than in others. Some kinds of fruit are more tenacious of their own peculiarities than other kinds are.

The Roxbury Russett, for instance, mingles less freely with other kinds of apples on grafting than some that are not so distinctly marked. The Baldwin is a remarkable tree for generous growth and a free sap. The Baldwin apple is more sensibly affected by the sap from other stocks than any kind that we know of. Accordingly we find a great variety of Baldwin apples from different trees grafted of course into various wild stocks.

Not only the outward appearance, but the flesh, the flavor, the consistency of the pulp, are essentially different in Baldwin apples from different trees. (4.)

Mr. Knight may therefore be correct in asserting that the best English apples and pears have disappeared, though he may have given a wrong reason for it. But the editor of the Western Farmer and Gardener will find it extremely difficult to show that precisely the same kinds may be continued for two thousand years by grafting and budding. (5.)

(1.) We certainly cannot settle the question by such evidence as is required by astronomy, nor by such as would settle a question of duration, in which the beginning and end of the period are within our reach, as in the case of annuals, biennials, &c.; but it is not, therefore, prudent to say, that no reasoning whatever will satisfy the curious enquirer that the same fruit may be continued down indefinitely by grafting,"—for very many very curious reasoners have attained unto that very satisfaction. Our comment on the next paragraph will show that Mr. B. misconceives the nature of the reasoning and of the evidence required.

(2.) "Which is the more *probable* theory?" The original assertion, and of course, the duty of proving it is on Mr. Knight's side. His statement is, that varieties have a natural period of duration, beyond which they cannot be propagated, except in a declining state. His proof is the fact that many old and famous fruits *have* declined. We acknowledge the facts, but deny the alleged reason of them. Had Knight been in possession of the principles developed by agricultural chemistry since his day, it is scarcely to be thought that he would have advocated his own theory. A tree, like a grain crop, exhausts from the soil, in time, the materials required for its growth and health. We affirm, and, by abundant facts, prove, that declining varieties are resuscitated by change of site and soil, or by a proper cultivation on the old soil.—It is not exhaustion that does the mischief, but starvation.

The theory of Mr. Knight is tenable only upon the supposition that the facts alleged by him were susceptible of *only* one explanation given by him; but it is no longer an open question, whether these facts can be otherwise accounted for. It is a settled matter; and the burden of proof goes again back to the supporters of this theory. We have nothing to prove. Our business is to disprove.

A tree outlives the natural term of human life; a *variety* goes down from generation to generation. The presumption is, that it will *continue* to live. If there is anything to counteract this presumption, it is to be urged by our respondents. One class of facts *have* been urged; but it has been shown unanswerably, (not that varieties cannot and will not run out, for no one can prove that, in the strict sense of the word, proof; but) that the *facts* do not prove anything but bad cultivation;—the facts alledged, throw light, not upon the nature of the vegetable, but the nature of the treatment it has received. Any further reply must invalidate these explanations of facts—or drop them. If they are dropped, the theory must be given up, unless other evidence is adduced. This is the state of the argument at present. And we now stand waiting, and say—"you have not yet adduced facts to sustain your theory—have you any other to offer—or shall the case be closed?"

We cannot *prove* that an Egyptian Pyramid will last ten centuries; nor that a given oak will grow twenty feet taller than it is now; or that Boston will continue to be a populous city; or that varieties of fruit will perpetuate themselves in their original integrity. But this is certainly the *apparent* tendency. If there be anything to interupt it, if there be any reason why we should not rest upon the presumption that these particular things will continue to be as they have been or to do as they have done, we are ready to listen.

(3.) We do not understand what Mr. Buckminster means, by "*sour sap circulating in sweet veins.*" There is no such thing as a sweet vein. There is no evidence that a sweet apple tree has veins any sweeter than the pungent crab. Both sweet and sour fruited trees, have saccharine deposites in their tissues, which the upward current of sap dissolves, and, probably, appropriates to some immediate use of the tree, before the sap enters the leaf. But the difference between the acerb apple and the most luscious sweet, is a difference in the *fruit itself*, which receiving the elaborated sap, induces in it (as does every separate organ of the vegetable) such changes, as shall fit it for the particular use designed. Two apples on different grafts of the same branch, may touch cheek to cheek, and the same current of sap may divide not six inches back of them, which in one apple is sharp almost to acridity and in the other, nauseously sweet; and the change is effected in the fruit itself. Lindley says: "It is certain that the juices furnished by the leaves, undergo a further alteration, by the vital forces of the fruit itself, which alteration varies according to the species (and he might have added, *variety* or sub-species.) Thus the fruit of the Peach is sweet, but there is no perceptible sweetness in its leaves; and the fruit of the Fig, is sweet and nutricious, while the leaves of that plant are acrid and deleterious."

(4.) The scion in nowise has '*the sole power to put out leaves.*' Every part of the stock has the same power that the scion has—but the leaves of the stock are not in communication with the fruit, and the leaves of the scion are.

No one supposes that the "sap has no influence whatever over the fruit;" but it is quite certain that this influence does not belong to the upward, but to the downward sap—not to the sap flowing from the channels of the stock, but to the sap flowing from the laboratory of the leaf and the green bark. All the cases mentioned of a modification of the fruit by influence of the stock, are explainable on other grounds. No one can tell the reason why plants *vary;* but the fact of "sporting" (as this tendency is technically called) is familiar to all gardeners.—Culinary vegetables, shrubs and trees frequently exhibit a marked change in the habit of some single branch, or set of branches. If the seed so sporting—or the branch, be selected and pains are taken to perpetuate the peculiarity, a new variety is obtained. In this manner the moss rose sprang from the cabbage rose, and by fostering its peculiarity a new family has been established. Every one conversant with orchards has seen the same tree manifesting, on different branches, striking dissimilarities—in leaf sometimes, or in flower, or in fruit. When the appropriate shape of an apple is *flat*, we sometimes find a branch bearing *conical* fruit. There are as marked peculiarities of *flavor*. There can be no doubt that a sagacious cultivator, detecting these sports, fixing them by cultivation, might establish varieties independently of either Knight's system of cross impregnation, or Van Mon's system of successive sowings. It is a third method, which will, one day, open to the ingenious, valua-

ble treasures. Now in cutting hundreds of thousands of grafts promiscuously from trees, it would indeed be strange if none of these "sports" were included; and if they chanced to be worked upon a congenial stock, a marked variation would result — This variation does not arise from the influence of the stock; it existed in the graft while growing upon the parent tree.

These facts and principles ought not to seem novel in the orchard, for in the garden they are entirely familiar, and constitute the basis upon which gardeners originate so many varieties of shrub and flower.

(5.) You are right if you require the Editor of the Farmer and Gardener to testify to this point from PERSONAL KNOWLEDGE.— He is not so old by several years as this would require him to be, in order to be a competent witness; nor, although hale and hearty, does he really expect at the end of 2000 years, to have any thing to testify on this interesting question. Friend Buckminster is a rigid man: he wishes questions to be settled by the most explicit experience--right up and down personal knowledge;—and we know of no one whose testimony on this question would be so satisfactory as that of a very worthy farmer who said " that cedar rails would last FOREVER; *he had tried it a hundred times.*"

EDITORIAL DISAGREEMENTS.

In the January number of the Horticultural Magazine, for 1847, Mr. Hovey makes the following remarks upon the strawberry question.

"We should not again occupy the attention of our readers with the subject, but for the purpose of noticing some strictures upon the opinions which we have from time to time advanced, while the question has been under the process of investigation, by our old correspondent, the Rev. Mr. Beecher, in the *Western Farmer and Gardener*. We have always had a high respect for Mr. Beecher's opinion, but, in the present instance, from some motive which does not appear, he has, by quotations here and there from our remarks, having reference to the opinions of our correspondents, falsified our views and endeavored to make it appear that we have advanced positive conclusions upon the question, without due investigation. This we deny; we have never had but one opinion upon the abstract question of *fertile* and *sterile* strawberries; but during the season of 1843, from facts which were contributed by several of the most observing and careful cultivators, we did doubt the necessity of staminate flowers to impregnate the pistillate ones, believing that *sterility* or *fertility* was greatly owing to the method of cultivation; and we then observed that *as soon as convinced to the contrary, we should lose no time in informing our readers of the fact;* we then immediately set about instituting a series of experiments to test this under our own eye; and when they were brought to a close, the last season, we gave, as we promised, the results of our investigations.—satisfactory as they have been to all."

There were two things which we agreed with ourselves when we undertook the conduct of this paper; the one was that we would never praise insincerely or blame angrily; the other was, that upon all matters where criticism was required, we would speak out plainly, and without fear even when those interested in the question were the most intimate and valued friends.

It is questionable by which cause the interests of the public suffer the most, by a timid policy, fearful of plain and explicit criticisms; or by a pugnacious and captious spirit that finds fault with everything. We do not perceive ourselves to have been guilty of either extreme in the remarks made upon Mr. Hovey's Magazine.

No man better than Mr. Hovey understands the virtues of explicit language; and he knows quite as well that a free criticism is consistent with very kindly personal feelings. Mr. Hovey ought not to have supposed that we had any other motive in our strictures, than a desire to discharge impartially, our editorial duty. Upon reflection he will certainly regret the implication contained in the words, "*for some motive which does not appear*, he has, by quotations here and there from our remarks, having reference to the opinions of our correspondents, *falsified* our views and endeavored to make it appear that we have advanced positive conclusions upon the question, without due investigation." We thought that carelesness had led Mr. Hovey into a vacillation, every way injurious to horticulture, and we made our objections promptly to it. We thought that Mr. Hovey forgot the amenities of social intercourse, in his remarks upon Mr. Longworth, and we promptly expressed our opinion of that. If our motives did not appear, upon the first thought, we are persuaded that a second reflection will disclose them to Mr. Hovey as being none other than such as he, and such as every honorable mind, would act under in a similar case.

We take this occasion to assure Mr. H., that we wrote the article in nowise as a contribution to any effort to lower his reputation, or to injure his Magazine. The service which Mr. Hovey, through his Magazine, for twelve years past, has done to Horticulture, has most unquestionably been great, and it will not, and ought not, to be soon forgotten. Indeed, if Mr. Hovey had not stood so high, if his magazine had not been so influential, there would have been no necessity of vigorously opposing any wrong tendencies in it. We rejoice to see other able periodicals occupying the same ground. If they needed such support, we should be glad to proffer any service in our power. May the increasing public interest demand many more! But numerous and good as others may be, the Magazine of Horticulture was the pioneer. It began when comparatively little general interest was manifested. It, for half a score of years, contributed to swell the stream upon which so many goodly barks are now prosperously floating, and we hope it may long prosper! But while we heartily express these feelings, Mr. Hovey must excuse us if we say, that we do not regard it as exempt from scrutiny; nor should he in future, if errors are pointed out, imagine that such liberties can only proceed from personal ill will. We are held to a strict responsibility for the veracity of the Farmer and Gardener. We ought to be; so ought every editor to be for the entire integrity of his paper; and when he transgresses, he ought not to call criticism, persecution; nor regard fidelity to the public, as enmity to himself.

Mr. Hovey thinks that we have misrepresented him by garbled extracts from his various articles. We must beg him to review these articles himself. We have reconsidered the whole ground. We affirm that we have *not* misrepresented the tenor of his *articles* on the strawberry question; and if his own writings expressed his opinions, we have not mis-stated Mr. Hovey's several *opinions*. We shall not a second time open the matter in detail, unless Mr. Hovey puts us to the proof. But if he wishes the subject reopened, we are persuaded that an analysis of his writings upon the strawberry question will not take from our statement a single item, but will give to many of them additional force.

We have observed, with deep regret, a growing irritability among the conductors of agricultural and horticultural journals. Our four best journals are at open personal feud —a thing inconsistent alike with courtesy and criticism. There is a world-wide difference between criticism and quar-

eling. The one respects *subjects;* the other, *persons.* A old and free criticism is wholesome and indispensable, but ersonal squabbles are reprehensible to the last degree.

NTELLIGENCE THE FOUNDATION OF AGRICULTURE.

Our motto expresses our opinion of the importance of agriculture, and its public relations. It is not the *only* source f wealth, but it is certainly the most important. Besides eing the greatest producer of wealth, it furnishes the upport for all other forms of productive industry, and the aterial upon which they operate. It underlies all other terests. Those vines in our forests, which have climbed he highest trees and overspread their tops, are as dependent pon the soil, to their very outermost leaf, as is the rush, the rass, or the ground-vine, which roots at every joint. The xtremest separation of industrial pursuits from agriculture only apparent, and not real. As every leaf of the vast anyan tree, would droop if the roots were disordered, so calamity upon agriculture affects every part of society, and etrays the fact that every interest had secretly sent its roots own into this universal and common source of prosperity.

It is not strange then, that agriculture should be a subject f absorbing interest to the political economist and the statesan. It *is* strange that it is so little cared for by the comunity, and by very public spirited and intelligent citizens, nd, above all, by husbandmen themselves. In its prosperity, very thing flourishes; in its disasters, every thing declines. t is the universal root.

The first, the fundamental improvement of agriculture, kes place, not in the soil, but in the *mind* of its occupant. ntelligence is to agriculture, what agriculture is to every ing else—its beginning and foundation. An expert and roductive industry was never bottomed upon mental upidity. Agriculture in its fullest development, requires gacity, and ripe reflection, as much as astronomy or enineering. He who would increase the productiveness of the oil; multiply the number of its products, or perfect their ualities, should put the plow, first of all, into the mind of e occupants, and follow the furrow with seeds of thought. e who cultivates farmers, cultivates their farms. The st crop in the whole round of agriculture, is a crop of gacious, reflecting, industrious men.

It has been suggested to us, not a few times, that our stoen leisure might more profitably be employed in the diffuon of thought and learning, than in recording the achievents of the plow and the spade. We are, in the most diect and practical manner, following this advice; but in a ay not understood by the adviser. Did they think that we ere writing for horses, or Durham cows? that our articles ere penned for harrows and carts? It is to *men* that we rite. To excite *thought* is to diffuse information. He ho only conveys facts is like one who proffers a single cup f water; but he who inspires the mind itself to thoughtfulss, digs a well, and strikes the fountain of perpetual suply. We convey thoughts that they may become the lev r of the mind; we diffuse knowledge that it may awaken bservation and reflection. If a farmer is studious of all he processes, which come under his notice, of the soil, its ature, preparation, functions; of the atmosphere, its ingrecients and their relations to vegetation; of insects and anials, of plants and minerals, he will be a practical philosoher. Why may not the highest order of intellect, be found etween handles of the plow as much as in the laboratory? s intelligence an attribute of *place?* the prerogative of any one profession? or is it not God's universal gift! A man who has become reflective upon one subject, will, too, have a better mind for all subjects. An intelligent farmer will be iutelligent as a citizen; as a parent, as a political element, and as a Christian—that highest, noblest form of man! Now although we aim at the soil, we aim at it through the *mind* of its occupant.

Our contribution is humble enough, if compared with our desires. But it is the best that we can do. The wish to do good, is a pleasure; but good actually done, though it be ever so little, will be a light to the memory, and a warmth to the heart, long after more boisterous pleasures have spent their fires and gone to ashes.

BATTLE OF THE POTATOES.

It is well known that the potato fields of Europe have revolted; and that the disaffection has extended across the Atlantic; and all efforts, hitherto made to subdue the rebellion have proved inefficient. The rebels are equally averse to negotiation or assault. A grand alliance has been formed against the revolters, comprising, Germany proper, Holland, Belgium, France, Great Britain, and the United States of America. The ablest leaders have been put at the head of affairs, but found themselves in every contest shifted to the tail end. Committees of the most resolute and undoubted bravery have been utterly routed from potato-field after potato-field. Spies and outliers have availed nothing; for although the enemy is divided in its own camp, and more than suspected of being rotton at the core, resistance is none the less successful. The extremity of the case has seemed to justify the barbarous customs of savage warfare. Captives are taken home and coolly cut to-pieces—roasted by slow fires, crushed to pieces, and put to every torture known to the laboratory. But, as yet, in not a single case, have they been known to divulge, under the most rasping process, a word of satisfactory information. Numerous supposed accomplices have been arrested and questioned before scientific magistrates, such as Drs. Lindley, and Leibig, Prof. Johnson, Moren, Payen, Phillips, &c.

A writ was issued by the English government, (the same thing occurred also with special reference to Ireland and afterwards to Scotland) against insects, returnable to an entomological tribunal; and though some were arrested, the most of them "made to themselves wings and flew away," and even those captured, were as stupid as beetles. The arrest got *wind*, and the officers were put in pursuit of the *air*, which, upon the closest questioning, only puffed at the whole matter.

In sober language, nothing can be a more humiliating evidence of the limitation of our knowledge of the secret processes of nature than that the science of the whole world is at fault, and completely baffled, in a matter that would *seem* to be so open to inspection. And yet after years of the most anxious research, our knowledge consists in *negatives.*

Is it an insect, is it a fungus, is it miasma, or constitutional exhaustion,—mere consumption? Does it first attack the leaf, the stem, or the tuber? Is there any mode of cultivation, are there any ingredients which applied to the potato, or to the soil, will either prevent it, or cure it if the infection exists? Does early or late planting; planting on high or low, wet or dry, rich or poor land, materially affect the result? What uniform or constant reply has yet been given to any of these questions? The seemingly conclusive

experiments of one committee are hardly announced, before the report of another, equally respectable, asserts in respect to the very same points very materially different results. Germany has its notions, and Great Britain, her notions. Leibig, and Payen, and Moren, and Solly, Johnston, Lindley, Phillips and others, have bestowed their thoughts and investigations upon the matter, as yet, without materially advancing our knowledge. A writer in Silliman's Journal, after glancing at the history of the theories and explanations to which this mysterious disease has been subject, comes to the following remarkable conclusion — a conclusion which ought to temper an overweening pride of science.

"We are forced to conclude that the origin and causes of this disease are at present unknown; its mysterious marks have appeared suddenly on two continents, separated by two oceans; under the heat and drought, rain and cold, on wet and dry, light and heavy soils, at every elevation, and in every variety of potato. Those who have most carefully investigated its peculiarities, most widely examined it range, are most undecided as to its cause.

"Only by a very long and extended series of experiments, by an accumulation of accurate results, can we hope to arrive at a solution of the mysterious problem. No subject of the present day offers more attractions to the scientific man, or a wider field of usefulness. The very existence of a crop of incalculable importance seems at stake; practice has entirely failed in its efforts to correct the evil, and looks to science for that aid, which, if within the limits of possibility, should be afforded.

Professor Bush, New York, has published a marvellous account of a mesmeric subject, one Davis, who, though in his normal state rather an ignorant cobbler, is, when in a mesmeric trance, more than a prophet. Professor Bush says he has refused to answer questions of impertinent curiosity, all money-making questions, with a pious discretion. But to all sober-minded and scientific or religious questions he renders surprising answers. He declares that he foretold the new Planet, Le Verrier, months before the calculation and prediction of the illustrious Frenchman reached our shores; that he can fluently quote Hebrew, and what is much more to the Professor's purpose, he can quote Swedenborg and expound his doctrines; and Professor Bush avows his solemn belief that he can solve any scientific problem which may be proposed to him.

Here then, at last, we fervently hope, is a David, born to vanquish this Goliah--Potato Rot. Leaving the Hebrew for awhile, and laying Swedenborg and his visions out of the question, will Professor Bush please direct the attention of Mesmeric Davis, to the matter of potatoes? It is a shame for any benevolent creature to see such amiable and excellent men as Dr. Lindley and Professor Leibig groping in search of truth on this subject and brought utterly to naught, if he has the means of solving the matter. We hereby declare that if Davis will give us the 'interior life' of a potato-field, if he will throw light on its darkness, and will afterwards, do the same thing, for the peartree-blight in all its moods and tenses, why then we will become his disciple. We have no doubt that, if two-thirds of our mesmeric lecturers were put to work in the potato-field, the cause of science would suffer nothing, and they would, to the full, be engaged in business as respectable as now.

Budding Oranges.—I have a thrifty young orange shrub, on which I design to experiment next season if I can procure buds. Is there one in your town now bearing or that has recently been budded, from which I can procure a few buds? I enquire thus early, that I may look elsewhere if none can be had at Indianapolis. C.

Good buds may be obtained here.—Ed

A Word to Friends.—We return our thanks to our many friends who have expressed regret that we have reduced the terms of the Farmer and Gardener. It is thought that if we had enlarged the work and increased the price, it would have been sustained. This may be true. But our friends forget one thing, which forms, with us, an essential feature of our enterprise, viz: the diffusion of information at so cheap a rate that the *whole mass* of the commuity may be reached.

Downing's Horticulturist and Hovey's Magazine are certainly periodicals of a much higher character than is the Farmer and Gardener. Yet they would be less adapted than it for the field in which it circulates. Three dollars is not too high a price for these exccellent journals—but they must be taken by a class of society which has three dollars to *spare*. The Farmer and Gardener is within the reach of the poorest landholder, the day-laborer, the apprentice. Two or three bushels of corn, two bushels of apples, half a cord of wood, a bushel of wheat, if set apart for the Farmer and Gardener, will furnish a family with reading.

If public spirited men wish to awaken an interest among unreading neighbors they have every chance given them from the low price of our paper; and, indeed, there are hundreds of gentlemen who might pay for, and gratuitously distribute, ten or twenty copies in their neighborhood, with very little inconvenience to themselves and great public utility.

BRICK KILNS INJURIOUS TO VEGETATION.

An interesting discussion took place, in the New York Farmers' Club, on the supposed influence of the fumes of brick kilns on vegetation. The statements were made by Dr. Underhill, who says that hundreds of thousands of dollar's damage has been done between New York City and Albany. His own vinyard and orchard were seriously injured.

"He said that he had noticed that this occurred on the leaves that contained moisture, but when the gasses passed over his farm, unattended with dew, fog, or rain, there appeared to be no damage done. In June last, the crop of apples in his orchard was very promising, but when they had acquired the size of marbles, the kiln commenced burning, and by means of its gases accompanied by a fog, the whole crop of fruit was cut off. He said that forest trees and crops of grain, carrots, sugar-beets, &c., had been much damaged by the same cause; and that if fruit-trees should happen to be in blossom when these gases were in the air, the destruction of fruit would occur at the distance of fifteen miles, in the direction of the wind! During the burning of these kilns, vast volumes of gas escape for many hours together, killing orchards at the distance of ten miles! Near Haverstraw, on the Hudson, it injuriously affects all vegetation—orchards are killed for three miles! the Newtown pippins are rendered rusty, gnarled, and covered with rough dark spots. The fuel employed in burning the bricks he said was wood, followed by fine mineral coal."

These statements have a somewhat startling, not to say extravagant aspect. Prof. Mapes explained by saying, alum will be formed from the alumina and potash of the clay, and sulphuric acid from the coal. This alum rising in the ascending heated current would be deposited on the leaves and, dissolving, injure or destroy them.

Dr. C. T. Jackson, of Boston, whose reputation is deservedly eminent, has promised to investigate the facts; meanwhile, he makes the following interesting statements:

"*Boston, December 7th*, 1846.

"It is well ascertained that sulphurous acid gas driven off from pyrotiferous clays by roasting, is injurious to vegetation, and if the clay used in the brick-yards contains either sulphurets or sulphates, the action of heat and of carbon

ill cause an abundant disengagement of sulphurous acid as.

"The roasting heaps of sulphurets of iron and copper, stroy vegetation for some distance around, and the action most marked when there is moisture on the leaves, the id being thereby condensed. Alum is not volatile at any at used in brick-burning. It may be decomposed by car- on and lime at a red heat, and then gives forth sulphurous id gas. Sulphates of potash and soda are decomposed in e same manner. I have not observed any injurious effects oduced by the burning of bricks in this vicinity, but since ou have called my attention to the subject I will inquire to the matter. C. T. JACKSON."

We have made enquiries of the most intelligent brick- akers in this vicinity, and find no confirmation of Dr. Un- rhill's theory. Our forests come within 150 yards of the iln. The hot smoke will cause the trees to shed their leaves eely; but they immediately put out again. We are in- rmed by Mr. Greer, that a beech and a maple tree leaved t three successive times in one season. In damp weather e effect was greater because the vapor was depressed and wept down low, instead of rising above the trees. An or- hard, on the east side of the town, stood within one or two undred yards of a kiln, thrice burned in one summer, but ithout the slightest detriment. The odor of the smoke is oroughly sulphurous.

COMMUNICATIONS.

Mr. Beecher: — You enquire of me in one of your late umbers, "how will these things appear to our Boston crit- s," when commenting on sundry inaccuracies, in the re- ort of the annual exhibition of our Horticultural Society. ince your friend of the Boston Magazine has discovered, at the strawberry belongs to the class of plants that have e male and female organs in the same blossom, (or if not, hat it is their own fault,) we must expect no mercy at eir hands. I therefore beg to be excused from being in- luded in your censure, as I have errors enough of my own answer for, without being answerable for the errors of thers. The committee sent to my green house, and took the exhibition such of my plants as they chose to select. was not present, or asked for names. Had I been, with e prudence of a Jerseyman, I should have pled a press of usiness, and have thrown the responsibility on others. Were not some of the errors made by the printer? Such ccidents will happen, even where the writing equals the est copperplate. In your December number, I am made say, "The original plant is pistillate flower-seed." What did say, I do not recollect, but nine certainly admitted of eing understood. For any inaccuracies in my hasty letter our Society, on the Grape and Strawberry, published in eir report, I am alone responsible. Beyond that, I plead ot guilty. With regard, yours,

N. LONGWORTH.

Of course, printers made the mistakes; and the publica- ion committee allowed the Report to go out without secu- ing their correction. Printers always make mistakes and areful men always correct them; or otherwise take the lame for neglect of duty.

Our only object in the criticisms which we made, was to all the attention of the gentlemen engaged in the Cincin- ati Horticultural Society, to the *carelessness* which marked heir printed account of the autumnal exhibition. We nev- r supposed ignorance to have occasioned the blemishes. It truck us that the committee in charge had simply ne- lected their duty. We do not believe that it will be so ne- lected again.—*Ed. Far. and Gard.*

IRON HOOPS vs. CURCULIO.

LOCUST HILL, CLERMONT CO., RURAL P. O., Ohio,
Dec. 14, 1846.

Mr. Editor: — In perusing the numbers of the late volume of the Farmer and Gardener, I find many of your correspondents complaining of damage done to their plum and other stone fruit trees by the curculio. I do not know that I can be of any service to them, but am willing to tell what I do know. A few years ago I visited an old friend in one of the river counties on the Hudson. Almost the first thing I noticed was a very handsome plum tree in his garden, and almost close to his parlor window, on the lower branches of which were suspended several old iron hoops. It appeared to me they were quite out of place, and I took the liberty of finding fault, and recommended their removal to the wood-shed or some other more suitable place. My friend told me that the tree was ten years old — that it had invariably blossomed and set its fruit well, but it had never yet ripened a single plum; but that he intended to have plenty of ripe plums this year (it was the first year he had owned the place,) and that, too, by hanging said hoops on its limbs. *His father always did so, and his plums never failed.* This was all I could get on the subject, and I shrewdly suspected it was something like keeping out the witch with a horseshoe.

In a day or two I returned home, to Albany. (I was a near neighbor of Judge Buel, at that time; I knew him well.) I took the first opportunity of naming the circumstance to an experimental chemist. He said the idea had never struck him before; but he had not the least doubt about the hoops being a cure—that they imbibed, I think, hydrogen gas during the night, and gave out (I believe,) oxygen in the morning, or as soon as the sun shone on them, and the fact of there being a large surface of iron exposed, there would sufficient gas arise to destroy the enemy.

It is probable I am not right in the names of the two gases: perhaps your very able and excellent correspondent, J. T. P., will be kind enough to put that matter right, and also give us his opinion on the subject. One thing, however, I do know, positively, viz: that the tree *did* ripen its fruit, and I had the pleasure of eating some of it.

You do not appear to understand how Mr. Motts' Virginia plowman managed to bury the weeds in his furrow after they had attained the height of four feet. A near neighbor of mine, Mr. David Miller, Patterson's Landing, Clermont county, plowed a piece of bottom land (five akers,) early last october; the weeds were quite that height, and he hid them completely. The plow, I understand, is a wrought iron one, made by Mr. Price of Higginsport, who is the owner of the lot. Among the weeds were, Man of the Earth, (*in any quantity to suit purchasers,*) Milk-weed, Cockle Bur, Stramonium, two large and troublesome affairs which are called here Iron-weed and Rich-weed, with many others quite as bad, and all in the most flourishing condition. Not one of them has shown itself since. I can see the piece from where I am now writing.

En passant, I would say, that a few weeks ago I purchased a small quantity of fruit trees of Messrs Hooper & Ferris, Newport, Ky. I was much pleased with the healthy and vigorous appearance of every thing in their nursery, and especially so with the very candid, polite, and gentlemanly deportment of the proprietors. If any of your readers are in want of any horticultural *notions*, they can not do better than call on Messrs. H. & F; I am sure they will be as well treated, as at any other establishment of the kind in the Union. E. W. VOSE.

VINEGAR BARRELS.

ROCK ISLAND, ILL., *December 24th* 1846.

Mr. Editor:—Not being in the habit of writing for the public eye, you must excuse anything that is not as it should be. I noticed in the Farmer and Gardener of August 15, a communication from J. Anderson, relating to vinegar barrels, and, having had some experience in making barrels of that kind, I concluded to give it to the public, if you see fit to publish it. If vinegar barrels are made of white or blue ash instead of oak, the worms will not eat through them. I have had 12 years experience, and made of oak

and ash, and have almost invariably found the oak eaten, but never heard any complaint of the ash. I have probably made one hundred. The timber should be well seasoned and of the best quality. The staves should be an inch thick after being dressed.

Having seen several communications of late on the subject of planting potatoes, all different from what I had been used to, you will confer a favor on me by publishing the best method you are in possession of. [Now, farmers, send up your methods. Will you let a man ask information and be too stingy to give it?—Ed.]

I have had some experience in budding fruit in the east, and always had good success, but here I have had ten or twelve die in a hundred. I did not take out the wood, and in the east I always took it out. Do you think it makes any difference? [No; or but very little. Much depends upon the *season*.—Ed.] Yours, &c., D. F. KINNEY.

SELECTIONS.

SUBSOILS AND THEIR MANAGEMENT.

The effiiciency of soils for producing good crops, depends much on the subsoil. If this consists of impervious clay or hard-pan, so as to oppose a ready escape to the water, it is evident the accumulation of the heavy rains, will materially injure the vegetation above then; for it is certain that while nothing is more essential to productive crops than an adequate supply of moisture to the roots, nothing is more injurious than their immersion in stagnant water. When such is the character of the subsoil, it should be under-drained if possible, or if this be not practicable, it should be broken up and loosened by the use of the subsoil plow.

A variety of plows have been constructed for this purpose, but unless it be intended to deepen the soil by an admixture of Manures, care should be taken to avoid bringing up the subsoil to mix with that on the surface. In addition to the more ready escape of water thus secured by breaking it up, the air is also admitted, which enables the roots to strike deeper, and draw their nourishment from a much greater depth. The increased distance through which the roots penetrate, furnishes them with additional moisture during a season of drought, thereby securing a luxuriant crop when it might otherwise be destroyed. This is frequently a great item in the profit of the farmer; as besides the increase of crop which follows a hot dry season when a full supply of moisture is furnished, the product is usually of better quality; and the general deficiency of agricultural produce which ensues from seasons of drouth, makes his own more valuable

As a result of this practice, there is also a gradual increase in the depth of the soil, as the fine and more soluble particles of the richer materials above are constantly working down and enriching the loosened earth below; and in time this becomes good soil, which in proportion to its depth increases the area from which the roots derive their nutriment. So manifest are the advantages which have followed the use of subsoil plows, that they have been extensively introduced of late years among the indispensable tools of the better class of agriculturists.

When the subsoil is loose and leechy, consisting of an excess of sand or gravel, thereby allowing the too ready escape of moisture and the soluble portions of manures, the subsoil plow is not only unnecessary, but positively injurious. In this case the surface soil should be somewhat deepened by the addition of vegetable manures, so as to afford a greater depth, through which they must settle before they can get beyond the reach of the roots; and the supply of moisture is thereby greatly augmented. It is better, however, to keep lands of this character in wood, or permanent pasture. They are at best ungrateful soils, and make a poor return for the labor and manure bestowed upon them.

If there be a diversity in the character of the sub and surface soil, one being inclined to sand and gravel, and the other marl or clay, a great improvement will be secured by allowing the plow to reach so far down as to bring up and incorporate with the soil, some of the ingredients in which it is wanting This admixture is also of remarkable benefit in old or long cultivated soils, which have become deficient in inorganic matters and in their texture.

The effect of long continued cultivation, besides exhausting what is essential to the earthy part of plants, is to break down the coarser particles of the soil, by the mechanical action of the plow, harrow, &c., and in a much more rapid degree, by the chemical combinations which cultivation and manuring produce. A few years suffice to exhibit striking examples in the formation and decomposition of rocks and stones. Stalacites and various specimens of limestone, indurated clays, sandstone and breccias or pudding stones, are found in favorable circumstances, almost under our eye; while some limestones, shales, sandstones, &c., break down in large masses annually, from the combined effect of moisture, heat and frost. The same changes on a smaller scale, are constantly going forward in the soil, and much more rapidly while under cultivation. The general tendency of these surface changes is towards pulverization. The particles forming the soil from the impalpable mite of dust, to the large pebbles, and even stones and rocks, are continually broken up by the combined action of the vital roots and the constituents of soils, by which new elements of vegetable food are developed and become available, and in form so minute, as to be imbibed by the spongioles of the roots, and by the absorbent vessels, they are afterwards in their appropriate places in the plant. Where this action has been going on for a long period, a manifestly beneficial effect has immediately followed from bringing up and mixing with the superficial earth, portions of the subsoil which have never before been subject to cultivation.

A subsoil which is permeable to water, is sometimes imperceptibly beneficial to vegetation, not only by allowing the latent moisture to ascend and yield a necessary supply to the plants, but a moisture frequently charged with lime and various saline matters, which the capillary attraction brings from remote depths below the surface. It is probably from this cause, that some soils produce crops far beyond the yield which might be reasonably looked for from the fertilizing materials actually contained in them. This operation is rapidly going forward during the heat of summer. The water thus charged with saline matters ascends and evaporates at and below the surface, leaving them diffused throughout the soil. After long continued dry weather, a thin white coating of these salts is frequently discernible on the ground.

Where rain seldom or never falls, this result is noticeable in numerous and sometimes extensive beds of quiescent (not shifting) sand. Deposits oftimes occur several inches in thickness. Such are the impure muriate of soda and other salts in the arid deserts of California; in the southern parts of Oregon; the nitrates found in India, Egypt, Peru, and various parts of the world.—*Allen's American Agriculture*.

POMOLOGICAL GOSSIP.

Every body knows—we mean every body that knows the difference between pears and pippins—that Boston is the focus or centre of what may be called the *pear-mania*. At At the annual shows of the Horticultural Society there, between *two and three hundred varieties* of this fruit are exhibited—a larger number by one-half, than are ever seen at the great shows of London, Paris, or Ghent.

It is the ambition of every fruit-grower in the circle of ten miles about Boston, to possess all the newest pears. Every little cottage garden has its Bartlett and its Beurres; and many amateurs annually import from France, Belgium and England, the last novelty of the nurserymen's catalogues, at prices where *guineas* count as frequently as *shillings*.

Boston has thus the credit of first introducing to this country many fine varieties of fruit at a much earlier date than they would otherwise have reached us. This precedence which she holds over New York and other cities, is not owing to any superiority of climate and soil; for it is admitted that she is not remarkably fortunate in these respects; but to the taste, wealth, enterprise, and above all the rivalry, joined to the power of union, which exists among her citizens. In Boston, the intelligence and spirit of the citizens, always act *combinedly*, and thus effect much

—witness her Horticultural Society. In New York they always act *individually*, and thus effect little—example the "Farmer's Club!"

Now that such a vast collection of pears has been accumulated in the country, we naturally look to the Boston cultivators, as having most thoroughly and repeatedly tested them, for *some results*. Every year the tables at the Horticultural Hall groan under vast contributions of pears; but the thousands of uninitiated visitors are, besides what may be gained by feasting the eyes, not much the wiser. *What are the results? What are really the best sorts?*

These are the questions which the planting community are now beginning eagerly to ask; and they are queries, which we hope the Society in question is making preparation to answer in its future great annual shows, by *labelling* conspicuously, "*first quality*," all those varieties which the fruit committee, composed as it should be of the soundest pomologists in Massachusetts, shall decide to be worthy of that distinction.

In the mean time, it has occurred to us, that a beginning might be made, towards some general results in pomology, by opinions gathered from various parts of the country, and laid before the readers of this journal. It is only by a large contribution of facts and results, from practical men, that we can ever hope to attain anything like a generalization of our knowledge on this subject.

Such thoughts as these passing through our mind, when we made a brief visit to Boston in September last, we had the curiosity to ask half a dozen of the most zealous and experienced growers of the pear in that neighborhood, to commence the compendium of results, by answering the simple question "*which do you consider the three best pears*—early, middle, and late—supposing yourself confined to three trees?"

We passed our first night under the hospitable roof of the President of the Society, at *Hawthorn Grove*. Col. Wilder remarked that the question was difficult to answer, *because it was so simple*. He and many others have been, for years past, collecting and proving hundreds of sorts from all countries, and they had been so busily employed in testing, that little had yet been done in forming a *summary* of their experience. He frankly coincided with us in the opinion, that among the *hundreds* of sorts, with high-sounding names, received from abroad, the really good ones could easily be counted by *tens*.

Col. Wilder has fruited this season over two hundred varieties of pears in his experimental grounds. He answered our question by naming the *Bartlett*, *Vicar of Winkfield*, and *Beurré d' Aremberg*.

On our expressing our surprise, that he should include the *Vicar of Winkfield* among so small a collection as three trees, he remarked that his high opinion of this variety was based upon a thorough trial of its good qualities, which were these—regular and great productiveness, never blowing off the tree, large, fair, unblemished fruit, and its remaining a long time in use. "True," he added, "the fruit is only second rate, but while it is of fair quality for the table, it is excellent for a long time for cooking." Altogether he considered it a fruit not to be dispensed with, in even so small a selection.

Mr. Walker, the worthy Chairman of the Society's committee on fruits, we unfortunately did not see, but we learn that his opinion as to the three varieties coincides with Col. Wilder's.

Our next visit was to Mr. Otis Johnson, at Lynn. We can scarcely convey to our readers our sensations of delight at the extraordinary perfection of this gentleman's fruit garden. He is one of the most zealous and untiring amateurs, and we have, nowhere in America, seen a garden devoted mainly, as this is, to fruit trees, in higher order, and the trees themselves more perfectly managed. The pears themselves are mostly dwarfs, many of them being trained in pyramid or in *quenouille* form, and all in the most healthy and satisfactory condition. We quickly saw that the knowledge of sound principles of culture here evinced, would produce results highly satisfactory in almost any soil or climate, however unfavorable naturally.

Mr. Johnson's answer to our question was, "*Bartlett, Louise Bonne de Jersey, Beurre d' Aremberg.*" "The *Louise Bonne de Jersey*," he said, "is the most productive upon yong trees of any pear I cultivate; and I think if I could have but three, I should be forced to include it; yet I may alter my opinion when the trees become older."

The persons we were next most desirous of questioning for results, were the cultivotors at Salem, one of the surroundings of Boston most famous for its horticultural success

At the *Pomological Garden*, the quiet and unpretending homestead of our late friend, that excellent pomologist Robert Manning, we found every thing in excellent order, under the care of his sons. The elder son, Mr. R. Manning, after some gardening chat, desired us to look among the numerous specimen trees in bearing, which we did with satisfaction. His answer to our inquiry was the following, "*Bartlett, Beurre Bosc*, and *Winter Nelis*." *Beurre Bosc*, Mr. Manning could not but consider, on the whole, one of the very best of autumn pears.

Our correspondent, Mr. Ives, whose garden joins Mr. Manning's, and whose zeal and enthusiasm as a cultivator are well known, favored us a'so with his three select favorites, which are these—*Bartlett*, *Fondante d'Automne*, and *Winter Nelis*. "You may be assured," said Mr. Ives, that no autumn pear surpasses the *Fondante d'Automne*;" whereupon he placed in our hands a fine specimen of this luscious fruit, to stop our mouth and our objections at the same moment. It was, as, indeed, we have always found this variety, truly delicious.

Our last pomological visit was to Mr. John C. Lee of Salem. It was three years since we had visited his grounds, where we have always found a great deal that is interesting and instructive. We were now greatly pleased with the admirable management every where to be seen, the stock of new trees and plants imported from abroad, and the flourishing and healthy condition of all. The buckthorn hedges here, are perhaps the most perfect in the country, and particularly pleased us by the manner in which they were trimmed—in the shape of a perfect triangle or wedge, whose base was about four feet, and height about seven or eight feet.

Mr. Lee has tested a great many fine pears, but hesitated when called upon to decide at once upon *three*. He finally chose, as the three which his own experience would lead him to adopt—the *Bloodgood*, *Seckel*. and *Winter Nelis*.

There were several other gentlemen, experienced fruit-growers, about Boston, to whom we should have been glad to submit our *primary question*, but our limited time did not allow us to visit them.

Something, however, has, we think, been gained by our pomological gossip. We have at least ascertained for our readers *nine pears*, whose maturity is from early summer to winter, which are esteemed by the most experienced growers of this fruit about Boston, as the very best for that neighborhood, and we may add, for the whole sea-coast belt, of fifty miles broad, extending from Chesapeake bay to Maine. These are *Bloodgood*, *Bartlett*, *Louise Bonne de Jersey*, *Seckel*, *Fondante d'Automne*, *Beurre Bosc*, *Vicar of Winkfield*, *Winter Nelis*, and *Beurre d'Aremberg*.

The *Bartlett*, it will be perceived, is almost an universal favorite. This is owing not simply to its size and good quality, but also to its regular productiveness, joined to its invaluable habit of adapting itself to every soil, and bearing while the tree is yet very young. *Beurre d'Aremberg* and *Winter Nelis* are about equally popular as winter fruits—the former being the best bearer, and the latter the most luscious in flavor.

Some of our readers may expect that after having successfully solicited the contributions of the leading devotees of Pomona around Boston, we are bound to contribute something ourselves before closing the books.

We shall do this very willingly, if they will allow us what speculators call a *large margin*. We must beg to be allowed *two* answers, though we would not allow our correspondents but one.

For all gardens to the east and south of us, we would recommend *Bartlett*, *Seckel*, and *Beurre d'Aremberg*. For all gardens to the north and west, *Bartlett*, *White Doyenne*, and *Beurre d'Aremberg*.—*Horticulturist*.

To Preserve Sweet Potatoes.—Can any of our friends in the eastern part of the State give the information asked in the following inquiry:

Can you give us any information on the means of preserving *Sweet Potatoes* during the winter? Do you know whether a patent right taken out by some man in the eastern part of the State, for preserving potatoes, is valuable? What does the right cost for a family? Inquirer.

We append, meanwhile, from the Louisville Journal, the following method of preserving this admirable esculent, in more southern latitudes:

The annexed method of preserving sweet potatoes is universally practised with success in the Southern States. It is generally supposed that it will not do in this latitude; but we are told that it is practised in the American bottom, opposite to St. Louis, and we never could see a reason why the method will not suit this climate as well as any other, if the covering be sufficiently increased, and if care be taken not to open the hills in cold weather. In the Southern States we have known water thrown upon them before they were covered up, and they kept perfectly well. They are kept perfectly the year round in this neighborhood, in a warm dry cellar, in dry dust, laid on shelves in layers of half a foot:—*Lou. Jour.*

Select a high dry spot, make a circular bed of six or seven feet in diameter, elevated a few inches above the surrounding earth by digging a trench 8 or 10 inches deep, and throwing the earth taken out of it on the bed; throw down a layer of dry pine straw, 7 or 8 inches thick; take the potatoes immediately from the patch as they are dug, and put them on the bed without being bruised, from 30 to 50 bushels in a bed. Over them throw a layer of dry pine straw, 5 to 6 inches thick; over the the straw a layer of pine bark, pulled from dead or decayed logs; throw on earth to the depth of 6 inches, and on the whole make a slight shelter of pine boards. Leave a small hole at the top of the bark, without earth, covered with a piece of pine bark, to let the steam escape. In April, take the potatoes and remove them to a dry and cool room in the barn or other out house, and spread them over the floor, and you can eat them till June or July.

Kingston, N. C., 1846. H. F. B.

A Correspondent wishes to know the best mode of packing up seeds for transportation through warm climates. We know of none better than the following, recommended by Dr. Linnæus, in a letter dated at Upsal, December 8th, 1758, and addressed to John Ellis then Governor of the colony of Georgia:

Seeds may be brought from abroad in a growing state, if we attend to the following method:—Put your seeds into a cylindrical glass bottle, and fill up the interstices with dry sand, to prevent them from lying close together, and that they may perspire freely through the sand; then cork up the bottle or tie a bladder over the mouth of it. Prepare another glass vessel so much larger than that which contains the seeds, that, when it is suspended in it, there may be a vacant space on all sides, of about two inches distance, between both glasses for the following mixture;—four parts of nitre (saltpetre), and one-fifth of one part of equal parts of common salt and sal ammoniac (muriate, or hydrochlorate of ammonia); these must be well pounded, and mixed together, and the spaces all round, between the outward and inward glasses, well filled with it. This saline mass, which should be rather moist, will always be so cold that the seeds in the inner glass will never suffer during their voyage, from the heat of the air. This experiment has been tried, and has not failed.

Seeds may also be preserved during the voyage, by immersing them in equal parts of melted beeswax and mutton tallow, or in melted beeswax alone, at as low a temperature as these substances can be reduced without congealing, and keep them in the coolest part of the ship to prevent the wax or tallow from melting.—*Agriculturist.*

An Excellent and Cheap Pudding.—One pint of rice; twelve apples of good size and sour; pare, core, and slice them; mix the rice and sliced apples, and put all into a bag and boil for half an hour. The bag must be large enough to allow the rice to swell, and yet no larger than the rice, when swelled, will fill. Eat with any sauce that suits the taste; butter and sugar are excellent.—*Agriculturist.*

To Remove Dust or Motes from the Eye.—Farmers, as well as many other persons are often so exposed in their labors as to get dust or motes in their eyes, and frequently suffer considerably before they can find any means of relief. The following simple remedy is almost always near at hand, and in most cases will prove effectual:—Fill a cup or goblet with clear cold water, quite to the brim, and place the eye in distress in such a position as to be completely within the water in the cup; then rapidly open and shut the eye a few times, and the dust or mote will be immediately washed away. If a cup or other vessel be not at hand, the eye may be placed in a spring or bucket of water.—*Agriculturist.*

To Boil Salt Meat Tender.—Put the meat over the fire in cold water, and never suffer it to boil faster than a gentle simmer or it will be hard and tough. When done, beef will separate easily from the bones—ham and tongue from the skin. A large shovelful of wood ashes may be put into the water in which ham of smoked tongue is to be boiled, and some hay at the bottom of the pot. Allow a quater of an hour for every pound of ham. For corned ribs or plate piece of beef, when well boiled take the bones out carefully, and put it it into good shape by wrapping about it neatly, all the all the fat and loose hanging pieces; then put it between two pieces of thick planks, kept for the purpose, and press it until perfectly cold, with a weight, say fifty-six. It makes large smooth slices, when cut, and at breakfast or lunch it is positively delicious.—*Agriculturist.*

Cooking Salt Beef.—Those who have voyaged much on the great waters must have observed what care a good ship's cook takes to soak his beef well, so as to wash the salt out of it. With this view he causes it to be towed through the pure water of the sea a day or two before it is cooked. Sometimes he makes it fast to a rope and pitches it over the stern; but here John Shark sometimes makes free with it; and thus establishes another claim to that hatred which all seamen cherish for this voracious inhabitant of the ocean. Generally, therefore, two or three lumps of beef and pork may be seen dangling from the bows, dipping as the vessel plunges, sinks, and rises in the clear blue waters of the sea; buffeted, knocked about, now deeply immersed and now dripping high above the waves, the meat is well washed through every fibre before it is plunged into the pot.

The sea cook always boils or rather simmers his meat very slowly, so that it has time to swell and become tender. This is the great secret of boiling meat that has been salted for long voyages. It is an improvement to partially boil it in one water; to pour such water away, and afterward add fresh water, if hot so much the better.—*Liverpool Albion.*

Swarming of Bees.—When bees swarm, they generally settle at first on some object near the hive, and if care is not taken to hive them while in this situation, they are likely to go off to the woods—sometimes to a great distance. Their flight is always direct, and sometimes astonishingly rapid, and when once they are fairly started, it is almost impossible to stop them. Various experiments have been tried for this purpose, and generally with but little effect; such as making great noises with old pans, bells, firing guns, &c. But we lately received from Mr. Sleight, of Genesseo, Ill., an account of a very simple means of arresting their flight, which he assures us he has proved to be perfectly effectual. It is to reflect the sun's rays directly upon them from a looking-glass. He relates several instances where swarms which were on the wing, endeavoring to make their escape, were suddenly stopped and made to alight in situations from which they were hived, by sending a few quick and vivid flashes of light from the glass directly into their centre. They appear to be greatly frightened or annoyed by this lightninglike appearance, and however rapid may be their flight, they will, it is said, at once come to a halt.—*Cultivator.*

To do this, requires a bright day; and promptness on the part of the operator.—Ed.

DWARF TREES.

We do not remember to have seen so minute an account of the Chinese method of dwarfing trees, as is contained in a communication to the (London) Gardeners' Chronicle.

We extract the part describing the process and result, not merely as a curiosity, but as conveying many hints, that an ingenious gardener may reduce to practice in American gardening.—*Far. and Gard.*

The cultivation of the dwarf trees is divided into two parts —that of the fruit and forest trees. That of the fruit trees rests upon a process already partly known in Europe; but of which the application is different. At the moment when the tree is in flower, the Chinese cultivator chooses a branch. It is well understood that he selects that which presents the most fantastic forms; he makes two circular notches, in a manner to raise a ring of bark of the length of about an inch; upon the part uncovered he applies fresh earth, that is held to it by means of a piece of cloth; each day he moistens the earth; soon the mark at the incision throws out roots, the branch becomes a tree, its fruit swells and ripens. Then the gardener cuts the branch at the end of the packet of earth, and plants it in a pot to send to market. It is rare that this operation does not obtain a complete success. The fruit trees raised in this manner are in general the Citchi (Dimocarpus litchi,) the delicious fruit of China; the Carambol, with octagonal fruit; the Lon-gan, a kind of Plum; the Orange, the Apple, Pear, Ficus indica, and a tree sacred in the pagodas, of which the fruit, a kind of Citron (Citrus medica, var. ?), is called by the Chinese, Hand of Foo, because it has the form of hand that the bonzes give to this god. The dwarfed trees are destined in general to ornament the pagodas, and the shops of the merchants on holidays. The cultivation of the foresst trees, dwarfed, demands more care. It is not only in this case to get ready a branch, but it is a struggle they undertake with Nature, which consists in making hideous that which Nature has created beautiful, to lame and deform that which she has made straight and well-looking, to render mean and unhealthy that which she has produced vigorous and robust. The trees submitted to this system of stunting are generally the Bamboo, the Cypress, and the Elm; the same as with the fruit trees, they choose a little branch as knotty and twisted as they possibly can find; they raise a ring of bark, and surround it with vegetable mold; at the same time they prune the tree of its handsomest branches, only preserving those which are zigzag; they then cauterize the wounds with hot iron. This first operation terminated, the gardener devotes all his care to his work, up to the day he is satisfied of the presence of some roots. This success obtained, his kindness is changed to cruelty; from this day he refuses water to his charge, and it is only when he sees it nearly perishing, when its leaves fade, and turn yellow, that he consents to moisten a little the earth which keeps it alive; he cuts off the leaves, and only allows a few at the extremity of the branch to remain.

The tree thus treated, rests between life and death; it shrivels and bows it head, until the return of the sap; at this moment its state appears likely to be ameliorated; it is watered each day, its health is about to return; but, alas! for the tree, these attentions are but preliminary to further cruelties. The sap flows in abundance, and then the Chinaman makes at various distances transverse incisions, some almost circular. These cuttings continued, stop the ascent of the sap, which coagulating upon the wounds, causes swellings of bark frightful to behold; but which rejoices the eye of the Chinaman. When the time of the sap is passed, they put the shrub in *regime*. They then make new notches upon it, but perpendicular this time. They raise with a knife the bark near these notches, and introduce in the one honey, in the other sugar, in some colors, and even acid. Attracted by the smell, thousands of ants and flies come and gnaw, and prick the bark of the tree, while on the other side the acid burns and destroys wherever it touches. At length, after this treatment, when the branch has become a veritable monstrosity, covered with lichens, lumps, and deformities, and it is recognized as capable of supporting its pitiful existence, they detach it from the tree; they shake away the earth that surrounds it, to place in a vase having the form of a large, square, jam-pot; the earth is then replaced by little gravel stones, that are just in number sufficient to maintain the tree straight in its pot. All the care necessary for the future is to moisten lightly the stones, when the plant appears to suffer.

The trees stunted in this manner are very much prized by the mandarins, and are sold at a high price; but what is surprising is the extreme longevity they acquire. It is not rare that they attain 100 and 200 years. They are often transmitted by inheritance.

On some dwarfed trees that were sent to Her Majesty from China, in addition to the inflictions described in the account, were found numerous ligatures of wire, and the branches twisted and bent by the agency of the same material.—*W. I. Windsor, Oct.* 26.

The great Size and Longevity of Trees.—We learn from a late number of the North American Review, that there are cypresses in Mexico, whose ages vary from 2,390 to 4,024 years, at the minimum estimate of scientific calculations; at the maximum, from 3,480 to 5,124 years, or almost coeval with the creation. These calculations are based upon the inspection of the layers of the wood as compared with the known age and relative growth of smaller trees of the same species. The growth of the cypress of Montezuma is forty-five feet. That of the giant cypress of Santa Maria del Thule, the Nestor of the race, is, near the base, one hundred and twenty-two feet, or forty feet in diameter. Its height is not given, but the tree as yet shows no signs of decay.

The Pinus Duglasii attains an altitude of from two to three hundred feet; one specimen measured by Lewis and Clark gave three hundred and eighteen.

Mexican Agriculture.—Gen. Thompson, late U. S. Minister to Mexico, gives the following description of Agriculture in that country:—"The plow in universal use is that used two thousand years ago—neither more nor less than a wooden wedge, without a particle of iron attached to it.—The hoe is a wooden staff, with an iron spike in the end.—What is still more remarkable, the only animal used in plowing is the ox; a planter, with twenty thousand horses and mules, (by no means an unusual number,) will only use his oxen in the plow. If you ask why is this, the only answer I can give is that the Spaniard never changes his habits, nor anything else but his government. All the passion that exists for change in other men, with him is concentrated in political changes."

Walnuts.—It has been ascertained that the shag-bark walnut may be successfully engrafted, and that the engrafted trees are much the surest bearers. It is probable that the hickory, or shag-bark, would do well engrafted on the pig-nut. If it should, the quantity raised might be greatly increased and the quality much improved. The Madeira nut, which is usually sold at the shops under the name of the English walnut, at twelve and a half to sixteen cents per pound, may be cultivated here without difficulty, and is very productive. In the vicinity of New York there is a tree which has produced in a single year as many as sold in the market for $200. We have no doubt that it might be engrafted on the butternut or the walnut with perfect success.

New Way to make Calicoes wash well.—Infuse three gills of salt in four quarts of boiling water, and put the calicoes in while hot and leave it till cold. And in this way, the colors are rendered permanent, and will not fade by subsequent washing.

FAMILY JARS.

Jars of jelly, jars of jam,
Jars of potted beef and ham:
Jars of early gooseberries nice,
Jars of mince-meat, jars of spice,
Jars of orange marmalade,
Jars of pickles, all home-made,
Jars of cordial elder-wine
Jars of honey, superfine.
Would the only jars were these
That occur in families!

CULTIVATION OF FRUIT TREES.

When, a few years since, I first turned my attention to the cultivation of roses, cuttings of rare and valuable varieties would sometimes be given me, having only a very few buds, such as are generally considered good, and terminating in one or more small spurs or limbs of half an inch to one or more inches in length, either with roses on them or that had just bloomed, the buds on which spurs are usually too small for working. It occurred to me that I could lose nothing by cutting out and inserting these spurs exactly as I would ordinary buds, and I was pleased to find that frequently these succeeded when the other buds failed. I then tried longer shoots, something near a foot long, and with equal success. Again it sometimes happened that when I wished to insert other buds, they had already started, and as I could not always afford to throw away most of the few buds I could get, I determined to try these too in the same way, and was pleased to find that these frequently grew off without wilting their leaves at all, and succeeding some times when the dormant buds either failed or pouted.

Having commenced cultivating fruit trees about the same time, and being naturally anxious to taste some of the pears that had celebrity, I thought that by inserting the fruit spurs in the same manner into quince stocks, I might have very dwarfish trees that would produce fruit very soon, and I think that I have not been disappointed in either expectation, as I have several trees that have borne fruit or blossomed, that are much smaller than any that were sent me as dwarfs, and have borne fruit several years sooner, as many of the parent trees have just begun also to bear, though my experiments were not commenced until several years after they were received. As I kept no memoranda of these things, I cannot be more particular. The term budding, cannot, with propriety, be applied to this operation, but it conveys a correct idea of the operation, I think; nor is it, strickly speaking, at least, according to any of the methods described in books, that I can recall. I graft all the year with equal success, except the months of November and December, in this climate. I also bud whenever the bark will separate freely, and I can procure buds. Last March I budded and saved some new roses I received from Paris, and I have budded them with fair success in November, after the frost has killed our crops, and I have moved to the plantation.

Sometimes trees that are purchased at a distance have only a small straight stem with a few lateral shoots, one or two inches long; in such a case I would make one or two grafts of the terminal or upright shoots, and bud in the spurs as soon as budding could be done. This operation has most or all of the advantages of both budding and gratting without the disadvantages of either. ROBERT CHISOLM.

American Farmer.

DESTROYING THE GRUB AND WIRE-WORM.

In a recent conversation with an intelligent farmer of Cayuga Co., N. Y., he described the method by which he saved his corn crop from the destruction of the wire-worm and grub. The former of these depredators had appeared in prodigious numbers—something less than a bushel per square rod of land, and their ravages were great. He ascertained by observation that they did not descend deep into the soil at the usual time of plowing sward land for corn, but continue mostly among the roots of the grass. His object, therefore, was to bury them alive. This he accomplished by turning over the sod with a powerful team, to a depth of at least eight inches, the soil being rather heavy. The surface was then pressed down evenly and firmly with a heavy roller. By this process several inches of compact soil lay above the region of the wire-worms, and as a consequence, whenever they attempted to pass upwards to the surface, they met with too formidable a resistence to penetrate. Hence, they continued with the grass below, and perished with its decay. Whether this be the true explanation or not, one thing was certain,—that where the corn was formerly almost wholly destroyed, it is now full and even in the rows, without the usual numerous vacant spaces over the field, always existing under the old practice.

By a similar process of observation, he was enabled to destroy the grubs. He discovered that these depredators, instead of remaining at the surface, like the wire-worm, descend deeply, and hence that deep plowing brings nearly all of them to the surface. Hence by the use of a heavy roller, many of them were crushed, and the remainder immovably compressed in the solid earth, till a fine-toothed harrow passing over the surface, tore out and destroyed them. The utility of this practice, like that of the former, has been amply proved by successful experiment.

Another practice of the same farmer, though not new, is worthy of notice. He has been enabled to keep his flock of sheep of the very finest animals only, by always doing his own picking for sales, instead of leaving this to the purchaser, as is too frequently the case. Or, at any rate, no sheep buyer is permitted to select from his flock, unless he is willing to pay fifteen or twenty dollars per head, which, of course, he will not do. A perseverance in this course for a long series of years has so improved his sheep, that though originally nothing uncommon, they will now compare creditably with many of the very finest in market.—*Cultivator.*

NATURE AND HABITS OF PLANTS.

When the stimulus of light is removed, the leaves of many plants droop, or are folded together, and their flowers often close, as if in repose; phenomena which Linnæus termed the *sleep of plants*. The leaflets of compound leaves, in such cases, are variously disposed in different plants, while the nocturnal position is uniform in each species, showing that the phenomenon is purely vital. De Candolle found that most plants could be made to acknowledge an artificial day and night, by keeping them in darkness during the day, and by illuminating them with candles at night. The sensibility to light resides in the petiole, and not in the blade of the leaf: for these movements are similarly executed, when a great part of the latter is cut off.

The flowers of different species are variously affected by the light. Many expand their blossoms in the morning and close them towards evening, never to be opened again, as those of Cistus, and many Portulaceous plants; while others, like the Crocus, close when the sun is withdrawn, but expand again the following morning. On the other hand, the Evening Primrose, Silene noctiflora, &c., unfold their petals at twilight, and close at sunrise. The White Water-Lily (Nymphæa) expands in the full light of day, but uniformly closes near the middle of the afternoon, and is withdrawn beneath the surface of the water. The Morning Glory opens at the dawn; the Lettuce and most Cichoraceous plants a few hours later; the Mirabilis, or Four-o'clock plant, nearly at that hour in the afternoon, &c. Berthellot mentions an Acacia at Teneriffe, whose leaflets regularly close at sunset and unfold at sunrise, while its flowers close at sunrise and unfold at sunset. The odors of flowers, also, are sometimes given off continually, as in the Orange and the Violet, or else they nearly lose their fragrance during the heat of mid-day, as in most cases; while others, such as Pelargonium tristis, Hesperis tristis, and most dingy flowers, which are almost scentless during the day, exhale a powerful fragrance at night. The Night-flowering Cereus grandiflorus emits its powerful fragrance at intervals; sudden emanations of odor being given off about every quarter of an hour, during the brief period of the expansion of the flower.

Many plants exhibit a still greater degree of excitability; their leaves being sensitive to the touch of external objects, as well as to light. The Sensitive Plant (Mimosa pudica) is a familiar instance of the kind: but it scarcely exceeds the Schrankia of the Southern States, where the leaflets rapidly fold up, as if in a state of sleep, when brushed with the hand. But the most remarkable instance of the kind is observed in another native of the United States, the Dionæa muscipula, or Venus's Fly-trap, where the touch, even of an insect alighting upon the upper surface of the outspread lamina, causes its sides suddenly to come together with considerable force, the strong bristles of the marginal fringe crossing each other like the teeth of a steel-trap, so as to retain the intruder; whose struggles only increase the pressure which this animated trap exerts.

The stamens of the common Barberry are so excitable, that they approach the pistil with a sudden jerk, when touched with a point near the base: the end of this motion

seems to be the dislodgement of the pollen and its projection upon the stigma. In a species of Stylidium, not uncommon in cultivation, the column, consisting of the united stamens and styles, is bent over one side of the corolla; but if slightly irritated, it instantly springs over to the opposite side of the flower. Some other movements, which have been likened to these, are entirely mechanical in their nature; as that of Kalmia, or Sheep Laurel, where the ten anthers are in the bud received into as many pouches of the monopetalous corolla, and being retained by a glutinous exudation, are carried outwards and downwards when the corolla expands. In this way the slender filaments are strongly recurved, like so many springs, until the anthers open, and the pollen absorbs the glutinous matter that confines them; when they fly upwards elastically, throwing the pollen in the direction of the stigma. The bursting of the fruit of the Squirting Cucumber (Momordica Elaterium,) and the elastic dehiscence of the Balsam, or Touch-me-not (Impatiens,) are also due to mechanical or endosmometic causes; and therefore are not to be adduced as instances of vegetable irritability.

An instance of spontaneous and continued motion, of the most remarkable kind, is furnished by the trifoliate leaves of Desmodium gyrans, an East Indian Leguminous plant. The terminal leaflet does not move, except to sleep; but the lateral ones are continually rising and falling, both day and night, by a succession of little jerks, like the second-hand of a time-keeper; the one rising while the other falls. Exposure to cold, or cold water poured upon the plant, stops the motion, which is immediately renewed by warmth. In several tropical Orchideous Plants, and especially in a species of Megaclinium cultivated in Europe, one of the petals executes similar and perfectly spontaneous automatic movements.

These phenomena depend upon physical conditions; but the physical forces or agents are but means of execution. When we consider that this excitability is often transmitted as if by a sort of sympathy, from one part to another; that it is soon exhausted by repeated excitation (as is certainly the case in Dionæa, the Sensitive Plant, &c.) and is only renewed after a period of repose; that all plants require a season of repose; that they evolve heat under special circumstances; that, as if by a kind of instinct, the various organs of the vegetable assume the positions or the directions most favorable to the free exercise of their functions and the supply of their wants, to this end surmounting intervening obstacles; when we consider in this connection those still more striking cases of spontaneous motion that the lower Algæ exhibit, and that all these motions are arrested by narcotics, or other poisons,—the narcotic and acrid poisons even producing effects upon vegetables respectively analogous to their different effects upon the animal economy,—we can hardly avoid attributing to plants a *sensibility* not different in nature, so far as we know, from that of the lower animals. Probably the *vitality* is essentially the same in the two kingdoms; and that to this, faculties and attributes are superadded in the lower animals, some of which are here and there not indistinctly foreshadowed in plants.

Finally, if called upon to define a plant, or draw the line between the animal and the vegetable kingdoms, we can only say; 1. That plants alone, under the solar influence, create organic matter from inorganic materials, and alone live, or are capable of living, by direct aggression upon the mineral world. Consequently, they alone decompose carbonic acid, and render free oxygen gas to the atmosphere: the action of animals upon the air is uniformly and continually the reverse. 2. In their structure, a plant may be reduced to a single simple viscle of cellular tissue containing chlorophylle, or its equivalent. But a developed animal of the very lowest grade has a more complex structure: from the necessity of the case it possesses a mouth and a stomach. Indeed, we have reason to believe that the polygastric animalcules are considerably complicated in structure. 3. As to chemical composition, the tissue of plants, or the material of which the cells are constructed, is a neutral ternary product, composed of carbon, hydrogen, and oxygen. Although the plant contains and produces the quarternary organic products, these do not enter into the composition of its fabric. The animal tissue, on the contrary, is directly composed of neutral quarternary products, consisting of corbon, hydrogen, oxygen, and nitrogen. Although these distinctions are, in all probability, absolute, yet it is often difficult, and frequently, perhaps, impossible, to apply them to the actual discrimination of the lower plants from the lower animals.—*Gray's Botany.*

The Influence of Horticulture upon Human Character.—Dr. Wm. Darlington, in a recent address before the Chester County (Pa.) Horticultural Society, thus truly speaks of a taste for horticulture in preserving pure morals and refining the perception of beauty:

That the habitual association with interesting plants and flowers exerts a salutary influence on the human character, is a truth universally felt and understood. No one ever dreams of any possibility of mistake, in estimating the disposition of those who delight in gardens, rural walks, and arbors, and the culture of elegant shade trees and shrubbery. Whoever anticipated boorish rudeness, or met with incivility, among the enthusiastic votaries of Flora? Was it ever known that a rural residence, tastefully planned and appropriately adorned with floral beauties, was not the abode of refinement and intelligence? Even the scanty display of blossoms in a window, or of the careful training of a honeysuckle round a cottage door. is an unmistakable evidence of gentle spirits and an improved humanity within. There may, possibly, be natures so gross, as to be incapable of perceiving the beauties of the vegetable creation—and others inaccessible to the influence of genuine taste—as it is said there are persons insensible to the charms of the sweetest music. But I can only imagine the existence of such unfinished specimens of our kind, as the rare *exceptions* which logicians say are the strongest proofs of the general rule. They must, indeed, be the veriest clods that ever fell untempered from *"auld Nature's 'prentice han."* Shakspeare, as you know, tells us—

> "The man that hath no music in himself,
> Nor is not mov'd with concord of sweet sounds,
> Is fit for treasons, stratagems, and spoils."

Now, if such be the character of the man, who is so unfortunate in relation to the pleasure of a *single sense*, what shall we say of him who cannot appreciate the delights of a rich and beauteous garden?—delights which appeal so directly to each of the senses, and minister so exquisitely to all the five! I should say, he was not fit even for "spoils," which, I believe, is the lowest qualification recognized at the present day.

Roxbury Russet and Putnam Russet.—There has been a good deal of conjecture and inquiry about the identity of these two fruits. A year or two ago the Putnam Russet was confidently claimed as a distinct western seedling. On the authority of Professor Kirtland, of Cleveland, we stated in our work on *Fruits*, that it had originated at Marietta. But discussion in the western agricultural papers, elicited the fact that beyond a doubt, the grafts of the so-called *Putnam Russet* were carried to the west from New England, by the Putnam family, whence the fruit obtained the latter title.

Some cultivators in the west still doubted the identity of these fruits—and we had ourselves doubts of their being the same.

We have however compared the two, this autumn, pretty carefully. Speciments of the "Putnam Russet" have been obligingly sent us by A. H. Ernst, Esq., of Cincinnati, Mr. Elliott, of Cleveland, and Rev. C. Springer, of Meadow Farm, Ohio. The specimens from the latter gentleman were from the Putnam orchard itself.

The Roxbury or Boston Russet is an apple well known here, but to satisfy ourselves, while we were in Boston the past autumn, we gathered specimens from large bearing trees in Roxbury, and in Dorchester, to compare them with the Putnam Russet.

The result is, that we cannot see any distinction between the two fruits, and are bound to consider them identically the same—that is, all the *Roxbury Russet*.

The "Putnam Russet," grown on rich soil in the west, are rather larger, and have shorter stalks than the Roxbury Russet usually exhibits here. But we find this apple unu-

sually variable, both in shape and in the length of the stalk. Ordinary specimens are rather flat, with a somewhat slender stalk—fine specimens are slightly elongated, with a short thick stalk. We gathered specimens from a Roxbury Russet tree at Dorchester, which in shape, stalk, flavor, &c., appeared to us precisely identical with the "Putnam Russet" we have received from Ohio.

In the nurseries last summer, we could distinguish no difference between the leaves, wood, and growth of these two sorts.—*Horticulturist.*

A "Seedy" Lawyer.—The Anemone grows naturally in the Levant, particularly in the islands of the Archipelago, where the borders of the fields are covered with them of all the colors, but the flowers are single, and have been greatly improved by culture. In France they were long cultivated before they were much known in Holland or England. Tournefort mentions two French gentlemen, Messrs. Malaval and Bachelier, who contributed greatly to the improvement of these flowers; and of the latter, he relates a pleasant story as follows:

There was a certain lawyer to whom M. Bachelier refused to communicate the seeds of his fine Anemones, who finding he could not obtain any either by friendship or money, determined to make a visit to M. Bachelier, with some of his friends who were in the secret; he ordered his lacquey who supported the train of his gown, to let it drop on a bed where the Anemones grew which he wanted, whose seeds were then ripe. They walked a considerable time, talking on various subjects, and when they came to the spot where the Anemones grew, a merry gentleman of the company began a story which engaged the attention of M. Bachelier, at which time the lacquey, who was no fool, let fall his master's train over the bed, and the seeds, having a downy covering, stuck to the gown, which the boy afterwards carefully raised, and the company went forward. The virtuoso took leave of M. Bachelier, and went directly home, where he carefully picked off the seeds which had stuck to his robes, and sowed them, which produced very beautiful flowers.—*Gardener and Practical Florist, Vol. 3, p. 266.*

PROPAGATION OF GOOSEBERRIES BY CUTTINGS.

The Belgian Journal of Horticulture, points out, as infallible, a method of propagating gooseberries, by cuttings in August. It consists of cutting, in that month, branches of the same year's growth, well ripened, and about a foot in length and simply planting them in the soil in a shaded spot. They succeed better and more surely than those made in spring. I also have tried this method, and have observed that this period is really better suited than any other to the propagation of gooseberries by cuttings, and probably for that of a great number of trees and shrubs. The operation is most commonly performed in spring. A great number of trials do not answer the expectations of the cultivator, for in that season the heat and dryness often prevent success. Many roses, and above all, Bengal roses, are subject to the same conditions, and succeed much better from cuttings in August than in spring. There are, regarding this process of propagating by cuttings in the open soil, many useful observations to be made, which would be applicable to a large number of plants.

[*Pepin, in Revue Horticole.*

Salt applied to Celery.—*Sir:* I perceive you and your correspondents advocate the use of salt. Applied in very moderate quantities, it is one of the best substances that can be used, especially in old gardens, long cultivated.

Salt has for a long time been applied to asparagus beds; the asparagus being a sea-beach plant, it is known to thrive wonderfully upon it. I write you this note, however, to say that I have for two years past used salt in growing *Celery*, with decided benefit. I apply a slight sprinkling of salt upon the top of the soil just before each earthing up, while the blanching is going on. I have dug my crop of Celery, so treated, this fall, with great satisfaction, it being twice as large as that in my neighbor's garden adjoining, which is treated just in the same way, except the use of the salt.

Yours, &c., J. S., Philadelphia, Dec. 5, 1846.

Horticulturist.

SONG OF THE PUMPKIN.

Written on receving the gift of a Pumpkin Pie.

BY A YANKEE.

Oh! queenly and fair in the lands of the sun,
The vines of the gourd and the rich melon run,
And the rock and the tree and the cottage enfold,
With broad leaves all greenness and blossoms all gold,
Like that which o'er Ninevah's prophet once grew,
While he waited to know that his warning was true,
And longed for the storm-cloud, and listened in vain
For the rush of the whirlwind and red fire-rain.

On the banks of the Xenil the dark Spanish maiden
Comes up with the fruit of the tangled vine laden;
And the creole of Cuba laughs out to behold
Through orange-leaves shining the broad spheres of gold;
Yet with dearer delight from his home in the North,
On the fields of his harvest the Yankee looks forth
Where the crook-necks are coiling and yellow fruit shines,
And the sun of September beams down on his vines.

Ah!—on Thanksgiving Day, when from East and from West,
From North and from South come the pilgrim and guest
When the grey-haired New Englander sees round his board
The old broken links of affection restored,
When the care-wearied man seeks his mother once more,
And the worn matron smiles where the girl smiled before,
What moistens the lip and what brightens the eye?
What calls back the past, like the rich Pumpkin Pie?

Oh!—fruit loved of boyhood!—the old days recalling,
When wood-grapes were purpling and brown nuts were falling!
When wild, ugly faces were carved in its skin,
Glaring out through the dark with a candle within!
When we laughed round the corn heap, with hearts all in tune,
Our chair a broad pumpkin—our lantern the moon,
Telling tales of the fairy who traveled like steam,
In a pumpkin-shell coach, with two rats for her team!

Then thanks for thy present!—none sweeter or better
E'er smoked from an oven or circled a platter!
Fairer hands ne'er wrought at a pastry more fine,
Brighter eyes ne'er watched o'er its baking than thine!
And the prayer which my mouth is too full to express
Swells my heart that thy shadow my never be less;
That the days of thy lot may be lengthened below,
And the fame of thy worth like a pumpkin vine grow,
And thy life be as sweet, and its last sunset sky,
Golden-tinted and fair as thy own Pumpkin Pie!

Use of Starch.—Starching of linen was brought into England in 1565, by Mrs. Dinghen Van Plasse, born in Flanders, who came over here at the invitation of some of the nobility, and *professed* herself a *starcher*; for which purpose she opened a kind of seminary. Her price was £5 to teach ladies to starch, and £20 to teach them how to boil it to a right consistency.

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